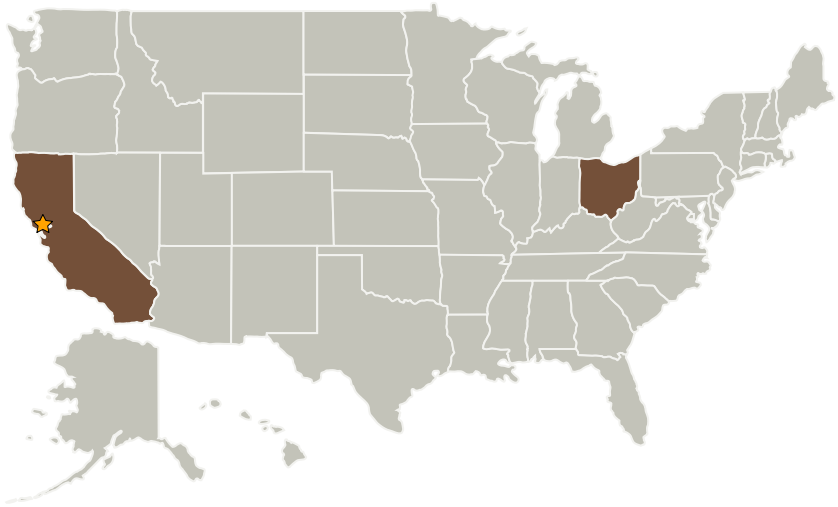
Assessment of Protective Properties of Optimized Flagellin Derivative Against Biologically Harmful Effects of Ionizing Irradiation During Space Flight, Phase I

Completed Technology Project (2006 - 2007)

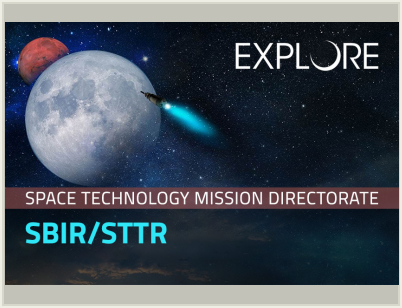
Project Introduction

The goal of this proposal is to explore a novel proprietary biopharmaceutical agent, named deltaFL-AA', a first in the series of innovative radioprotectors to act as an agent providing protection of the organism against major space radiation risks. These risks include organism death resulting from acute irradiation as well as radiation-induced carcinogenesis caused by low-dose exposure. An unprecedented radioprotective potency of deltaFL-AA' demonstrated by its ability to cure 100% of mice from supralethal (14 Gy) doses of gamma-irradiation and its strong immunostimulatory properties (especially the ability to trigger natural killer response, which is well established as one of the antitumor firewalls) make this drug an extremely attractive candidate for testing in a NASA-funded program.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Cleveland BioLabs, Inc.	Supporting Organization	Industry	Cleveland, Ohio



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Primary U.S. Work Locations	
California	Ohio

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.5 Radiation
    - TX06.5.2 Radiation Mitigation and Biological Countermeasures